AMENDMENT TO THE CLAIMS

Please **ADD** claims 29 and 30 as follows.

A copy of all pending claims and a status of the claims is provided below.

1. (previously presented) A method for machining a workpiece made from a titanium-based alloy, comprising:

removing at least one of surface oxides and further covering layers from regions of the workpiece;

heating the workpiece to an annealing temperature of approximately 973 K in a hydrogen-containing atmosphere, wherein the workpiece takes up hydrogen, and wherein the hydrogen containing atmosphere is under a pressure of approximately 5×10^3 Pa;

cooling the workpiece in the hydrogen-containing atmosphere;

metal-removing machining the workpiece; and

heating the workpiece in a hydrogen-free atmosphere, wherein hydrogen is released.

2. (previously presented) The method as claimed in claim 1, wherein the heating the workpiece in the hydrogen-free atmosphere is performed in a vacuum in order for the hydrogen to be released.

3. (canceled)

4. (canceled)

5. (previously presented) The method as claimed in claim 1, wherein an annealing time in the hydrogen-containing atmosphere is at least 2 hours.

6. (canceled)

7. (previously presented) The method as claimed in claim 2, wherein the vacuum is at least $2 \cdot 10^{-3}$ Pa.

8. (previously presented) The method as claimed in claim 1, wherein an annealing temperature in the hydrogen-free atmosphere is at least 773 K.

9. (previously presented) The method as claimed in claim 1, wherein the heating is carried out inductively.

10. (previously presented) The method as claimed in claim 1, wherein a hydrogen concentration in the workpiece after cooling is less than 1.5% by weight in titanium.

11. (previously presented) The method as claimed in claim 10, wherein the hydrogen concentration is 0.5% by weight.

12. (canceled)

13. (previously presented) The method as claimed in claim 1, wherein the at least one of surface oxides and further covering layers are removed by an etching solution.

14. (previously presented) The method as claimed in claim 13, wherein the etching solution is a mixture comprising H_2O, HNO_3, HF and H_2O_2.

15. (previously presented) The method as claimed in claim 14, wherein the etching solution is a mixture of 50 ml of H_2O, 50 ml of HNO_3, and 10 ml of a solution of [12 ml of HF + 70 ml of H_2O_2].

16. – 20. (canceled)

21. (previously presented) An alloy for producing a workpiece made from a titanium-based alloy, comprising TiAl6V4 having a lanthanum content of 0.3 – 1.5 atomic%,

wherein the lanthanum is precipitated into precipitates of pure lanthanum devoid of oxygen and nitrogen,

the precipitates have a mean size of 12 μm, and

a distribution of the precipitates is restricted to grain boundaries and a grain interior between dendrites and a cast microstructure.

22. (canceled)

23. (previously presented) The alloy of claim 21, wherein the alloy is a $\alpha + \beta$ alloy.

24. (canceled)

25. (canceled)

26. (previously presented) A method for machining a workpiece made from a titanium-based alloy, comprising:

removing at least one of surface oxides and further covering layers from the workpiece;

after the removing, heating the workpiece in a hydrogen-containing atmosphere to an annealing temperature of at least 773 K, during which the workpiece takes up hydrogen, wherein the hydrogen-containing atmosphere is under a pressure of approximately 5×10^3 Pa;

after the heating to the annealing temperature, cooling the workpiece in the hydrogen-containing atmosphere;

after the cooling, metal-removing machining the workpiece; and

after the machining, heating the workpiece in a hydrogen-free atmosphere, wherein the hydrogen is released.

27. (previously presented) The method as claimed in claim 1, wherein the workpiece comprises TiAl6V4 with a lanthanum content in a range of 0.3 to 1.5 atomic%.

28. (previously presented) The alloy of claim 21, wherein the lanthanum is completely precipitated.

29. (new) The method as claimed in claim 1, further comprising etching the workpiece after the metal removing machining and before the heating the workpiece in the hydrogen-free atmosphere.

30. (new) The method as claimed in claim 26, further comprising etching the workpiece after the metal removing machining and before the heating the workpiece in the hydrogen-free atmosphere.